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WHAT IS CLAIMED IS:

1. A chimeric anti-idiotypic antibody or fragment thereof which specifically binds to the idiotype region of an anti-CEA monoclonal antibody, comprising the rWI2 light chain and heavy chain variable regions, or silent mutations thereof.

2. A humanized anti-idiotypic antibody or fragment thereof which specifically binds the idiotype region of an anti-CEA monoclonal antibody, comprising rWI2 CDR regions and humanized FR regions.

3. An isolated polynucleotide encoding the heavy chain or the heavy chain variable region of a chimeric or humanized antibody or antibody fragment according to claim 1 or 2, comprising sequences encoding at least two rWI2 heavy chain CDRs, selected from the group of CDRs consisting of:
the complementary determining region -1 (CDR-1) sequence NYWMT,
the complementary determining region -2 (CDR-2) sequence SITSTGGTYHAESVKG, and
the complementary determining region -3 (CDR-3) sequence DDYGGQSTYVMDA.

4. An isolated polynucleotide encoding the light chain or the light chain variable region of a chimeric or humanized antibody or antibody fragment according to claim 1 or 2, comprising sequences encoding at least two rWI2 light chain CDRs, selected from the group of CDRs consisting of:
the complementary determining region -1 (CDR1) sequence RASQDIGNYLR,
the complementary determining region -2 (CDR2) sequence GATNLAA, and
the complementary determining region -3 (CDR3) sequence LHHSEYPYT.

5. A chimeric anti-idiotypic antibody according to claim 1, wherein said heavy chain variable region comprises the ratWI2VK sequence shown in Figure 1.

6. A chimeric anti-idiotypic antibody according to claim 1, wherein said light chain variable region comprises the RatWI2VK sequence shown in Figure 2.

7. A humanized anti-idiotypic antibody according to claim 2, wherein the heavy chain variable region comprises the KOLWI2VH-1 or the KOLWI2VH-2 sequence shown in Figure 1.

8. A humanized anti-idiotypic antibody according to claim 2, wherein the light chain variable region comprises the REIWI2VK or the REIWI2VKRS sequence shown in Figure 2.

9. An isolated expression vector comprising a first gene for the WI2 heavy chain and second gene for the WI2 light chain.

10. An isolated expression vector according to claim 9 wherein said light and heavy chains are chimeric or are humanized.

11. A host comprising said expression vector according to claim 9.

12. An isolated first expression vector comprising a gene for WI2 heavy chain and an isolated second expression vector comprising a gene for the WI2 light chain.

13. An isolated first and second expression vectors according to claim 12, wherein said genes are for chimeric or humanized WI2 light and heavy chain.

14. A host comprising said first and second expression vectors according to claim 12.

15. A method of stimulating an immune response in a patient against cancers expressing carcinoembryonic antigen, which comprises administering to said patient an effective amount of a vaccine comprising the humanized anti-idiotypic antibody or antibody fragment of claim 2, conjugated to a soluble immunogenic carrier protein, optionally in combination with a pharmaceutically acceptable vaccine adjuvant.

16. In a method of diagnosis or treatment of a patient, wherein an antibody or antibody fragment that specifically binds CEA is used as a targeting, pre-targeting or therapy agent, either as such or as a component of a conjugate,

the improvement wherein an anti-idiotypic antibody according to claim 2 is used to clear non-targeted antibody or antibody fragment.

17. A method of detecting the presence of an antibody or fragment thereof that specifically binds CEA, in a biological fluid sample, comprising contacting said sample with rWI2, or a chimeric anti-idiotypic antibody or antibody fragment according to claim 1, or a humanized anti-idiotypic antibody or antibody fragment according to claim 2, and detecting binding of said anti-idiotypic antibody or antibody fragment to an antibody idiotype or antibody idiotype fragment in said sample.

18. A method according to claim 16, wherein said anti-idiotypic antibody or antibody fragment is labeled with a radiolabel, an enzyme, or a fluorescent agent.

19. A vaccine, comprising the humanized anti-idiotypic antibody or antibody fragment of claim 2, conjugated to a soluble immunogenic carrier protein, for

use in stimulating an immune response in a patient against a cancer characterized by expression of CEA.